TRANSPORTATION STATISTICS PROGRAMS

he Bureau of Transportation Statistics (BTS) is responsible for only a portion of major federal statistical programs.

Other programs are described by agency, starting with the constituent parts of the U.S. Department of Transportation (DOT).

Office of the Secretary, Office of Commercial Space Transportation

Agency Mission

The Office of Commercial Space Transportation (OCST) was established in 1984 within OST. The provisions of the Commercial Space Launch Act, which gave DOT the authority to regulate U.S. commercial space launch activities are carried out through OCST. Its mission is to facilitate development of a safe and competitive U.S. commercial space transportation industry. OCST carries out these responsibilities by (a) licensing and regulating all

U.S. commercial launch activities to ensure that they are conducted safely and responsibly, and (b) promoting and encouraging commercial space transportation.

Current Data Programs

OCST is developing two databases to support its responsibilities in the rapidly evolving commercial space transportation sector.

Space Transportation Analysis and Research. This database provides information on international space transportation infrastructure and markets. Specifically, it provides information on launch vehicles, payloads (e.g., physical and operating characteristics), future and historical launch events, characteristics and facilities

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of launch sites, and characteristics of commercial launch service companies (e.g., facilities, products, and services).

Space Accident Data Base. OCST has developed the framework for this database and entered some data on space-related accidents and incidents for commercial space launches in the United States. The database encompasses ground, launch, orbital, and reentry accidents and incidents; it provides information on the parties involved and the payload, the date, a description and the sequence of the accident or incident, and the consequences (e.g., casualties, damage, and delays).

Research and Special Programs Administration

Agency Mission

The mission of the Research and Special Programs Administration (RSPA) is to serve as a research, analytical, and technical development arm of DOT for long-range and multimodal research and development and to conduct special programs. Particular emphasis is given to pipeline safety, transportation of hazardous cargo by all modes of transportation, safety, security, facilitation of domestic and international commerce, and intermodal research and development activities, including university programs.

Current Data Programs

Aviation Statistics. RSPA's Office of Airline Statistics manages the following data programs related to aviation economics and operating statistics:

 Form 41: Schedule T-100(f): Foreign Air Carrier Traffic Data by Nonstop Segment and On-Flight Market is filed by foreign air carriers that provide service to and from the United States. Schedule T-100 contains traffic (e.g., passengers enplaned) and operating (e.g., aircraft departures) statistics by nonstop segments and on-flight markets for scheduled, nonscheduled, and chartered operations. Data are for operations between the carrier's home country and the United States.

- Form 41: Report of Financial and Operating Statistics for Large Certificated Air Carriers (Financial Schedules Only) is filed by large certificated U.S. air carriers. It comprises 15 financial schedules.
- Carrier's Audit Report must be submitted by each large certificated U.S. air carrier whose records are audited by an independent certified public accountant.
- Form 291-A: Statement of Operations and Summary Statistics for Section 418 Operations contains profit and loss data and traffic and capacity statistics. The form is filed by U.S. air carriers operating under Section 418 domestic all-cargo certificates.
- Form 41: Schedule T-100: U.S. Air Carrier Traffic and Capacity Data by Nonstop Segment and On-Flight Market and Supplemental Schedules, T-1: U.S. Air Carrier Traffic and Capacity Summary by Service Class, T-2: U.S. Air Carrier Traffic and Capacity Statistics by Aircraft Type, and T-3: U.S. Air Carrier Airport Activity Statistics are filed by all large certificated U.S. air carriers. Schedule T-100 contains traffic (e.g., passengers enplaned) and capacity (e.g., available seat miles) statistics by nonstop segments and on-flight markets for domestic and international scheduled, nonscheduled, and chartered operations. The supplemental schedules contain summary traffic and capacity statistics without segment or market detail for domestic allcargo operations, domestic charter operations, and international military charter operations.
- Form 251: Report of Passengers Denied Confirmed Space must be filed quarterly for scheduled passenger service performed with large aircraft (i.e., more than 60 seats), by all large U.S. certificated air carriers and foreign air carriers that provide service from the United States, disclosing the number of passengers who were denied confirmed space and how those passengers were accommodated.
- Form 298-C: Report of Financial and Operating Statistics for Small Aircraft Operators contains five schedules. U.S. scheduled passenger

- commuter air carriers file three of the five; small U.S. certificated air carriers file all five.
- Form 2787: Passenger Origination and Destination Survey must be filed by certificated U.S. air carriers providing scheduled passenger service. The report includes a 10 percent survey of all tickets except for the largest domestic markets (approximately 1,000 markets), in which a 1 percent sample may be used. All carriers have elected to file a 10 percent sample. The survey provides information on the origin and destination of the passenger, routings by carrier, fare paid, and fare class.
- U.S. International Air Travel Sttistics is a program that was recently transferred to RSPA from OST. The compilation of international air travel statistics began in the 1970s under a joint project with DOT, the Immigration and Naturalization Service (INS), and the Travel and Tourism Administration. The project consisted of coding INS Form I-92, completed by international air carriers arriving in and departing from the United States. The information coded from the form included the international airports of embarkation and debarkation, flight number, date, and number of U.S. citizens and noncitizens aboard the flight. The origin and destination information is now being obtained from another form submitted to RSPA by the air carriers, but citizenship data is still being coded.
- **Electronic Tariff Information System** (Airlines) is another program that was recently transferred to RSPA from OST. International air carriers are regulated by DOT, so tariffs for changes in passenger fares, rules, and cargo rates must be filed with RSPA's Office of Automated Tariffs. Until fiscal year 1990, tariffs had been filed manually. In January 1989, DOT published a regulation that allows the international airline industry to file electronically with DOT and withdrew the requirement for manual posting at pricing locations. After an experimental program, the automation of international aviation tariffs began in phases. In July 1990, the fares portion of the system

- was completed and is operational. Future enhancements will include automating passenger rules and cargo rate tariffs.
- Air Carrier On-Time Performance Report. The 12 largest air carriers are required to submit monthly reports to DOT on domestic flights that are delayed 15 minutes or more from the scheduled departure or arrival time at an airport. The regulation requires this information to be reported for only the 31 largest U.S. airports, but the participating air carriers have voluntarily submitted reports for all airports on their domestic systems. A summary report that covers each airline's overall performance and the performance of individual airports by time of day is published each month. Detailed tabulations and a data tape that shows specific flight information can be purchased from the department's Volpe National Transportation Systems Center in Cambridge, Massachusetts.

Hazardous Materials Information System. RSPA's Office of Hazardous Materials Transportation collects the following data on the movement of hazardous materials. A summary of ongoing programs and policies for promoting hazardous materials transportation safety is provided in an Annual Report on Hazardous Materials Transportation. A national overview of safety and enforcement initiatives, and incident and accident data is provided; regulations and exemptions to regulations issued during the year are described; the status of the national safety program is summarized; and areas of future concentration are identified. Statistical summaries of incident and accident data indicate the condition of the hazardous materials transportation industry, and in conjunction with enforcement data, indicate the performance of that industry.

Pipeline Safety. RSPA's Office of Pipeline Safety collects the following data on liquids and natural gas pipelines for the Hazardous Materials Information System. Operators of natural gas transmission and gathering, and distribution pipeline systems, as well as liquids petroleum pipeline systems, are required to file incident and accident reports for any pipeline leak or failure that results in

death, injuries that require hospitalization, or property and product loss in excess of specified amounts. These reports provide data about the nature of the incident, apparent cause, and impacts. Annual reports covering inventory data (e.g., miles of pipe by type) and leak repairs are also required of natural gas pipeline operators.

Multimodal Statistical Reports. RSPA's Volpe National Transportation Systems Center, under BTS sponsorship, is responsible for producing: National Transportation Statistics which provides summaries of modal operating and financial data, information on modal performance and safety trends, and supplementary data on transportation's impact on the economy and energy use.

Federal Aviation Administration

Agency Mission

The primary function of the Federal Aviation Administration (FAA) is to foster the development and safety of American aviation. More specifically, FAA is responsible for developing the major policies necessary to guide the long-range growth of civil aviation; modernizing the air traffic control system; establishing in a single authority the essential management functions necessary to support the common needs of civil and military operations; and providing for the most effective and efficient use of the airspace over the United States. The agency is also responsible for rulemaking relative to these functions.

FAA constructs, operates, and maintains the National Airspace System and the facilities that are part of the system; allocates and regulates the use of airspace; ensures adequate separation among aircraft operating in controlled airspace; and, through research and development programs, provides new systems and equipment for improving use of the nation's airspace.

The Airport Improvements Program authorizes FAA to make grants of federal funds to sponsors for airport development and for advanced planning and engineering. FAA also prescribes and administers rules and regulations concerning the competency of pilots, mechanics, and other FAA-licensed aviation technicians; aircraft airworthiness; and air traffic control. It promotes safety through certification of pilots and other technicians, aircraft, and flight and aircraft maintenance schools. Finally, it reviews the design, structure, and performance of new aircraft to ensure passenger safety.

Current Data Programs

FAA maintains a diverse set of data that supports critical activities in safety regulation; airspace and air traffic management; management of air navigation facilities; research, engineering, and development; testing and evaluation of aviation systems; airport programs; registration of aircraft; and others.

Because of the large amount of FAA data, many of which are used for administrative purposes, an attempt was made here to limit the list to those major statistical publications and databases from which summary statistics and trend data can readily be derived for policy purposes.

Major Statistical Publications

- Airport Activity Statistics of Certificated Route Air Carriers is a joint annual publication of FAA and RSPA that contains data on passenger enplanements and tons of enplaned freight (express and mail) by airport, carrier and type of operation, and type of aircraft.
- Census of U.S. Civil Aircraft is an annual publication that includes statistical data on the registered civil fleet, air carrier aircraft, and general aviation aircraft, both registered and active, including detailed reports for general aviation aircraft by owner's state and county, and registered aircraft by make and model.
- FAA Air Traffic Activity is an annual publication with data on terminal and en route air traffic activity (e.g., takeoffs and landings, aircraft handled, and flight plans filed). The data is collected and compiled from FAA-operated airport traffic control towers, air route traffic control centers, flight service stations, approach control facilities, and FAA contract-towered airports.
- FAA Statistical Handbook of Aviation is an annual publication that presents historical statistical informa-

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tion pertaining to FAA; the National Airspace System (NAS); airports; airport activity; U.S. civil air carrier fleet; U.S. civil air carrier operating data; pilots, mechanics, and other FAA-licensed aviation technicians; general aviation aircraft; aircraft accidents; aeronautical production; and imports and exports.

- FAA Forecast is an annual publication of forecasts for key aviation activity and FAA workload measures.
- General Aviation Activity and Avionics Surveys is an annual report that presents the results of the General Aviation Activity and Avionics Survey conducted to obtain information on the activity and avionics of the U.S. registered general aviation aircraft fleet. The report contains estimated flying time, landings, fuel consumption, lifetime airframe hours, avionics, and engine hours of the active general aviation aircraft by manufacturer and model group, aircraft type, state and region of based aircraft, and primary use.
- General Aviation Pilot and Aircraft Activity Survey is a triennial report that includes data on the type and source of weather information services, trip length in time and distance, pilot age and certification, estimates of total 1990 general aviation operations, fuel consumption, and aircraft miles flown.
- Rotorcraft Activity Survey is a special one-time report containing breakdowns of active rotorcraft, annual flight hours, average flight hours, and other statistics by rotorcraft type, manufacturer and model group, region and state of based aircraft, and primary use. Also included are law enforcement and public use rotorcraft, lifetime airframe hours, engine hours, estimated miles flown, and estimated number of landings.
- U.S. Civil Airmen Statistics is a detailed annual report containing statistics on pilots, mechanics, and other FAA-licensed aviation technicians and the number of certificates issued.

Data Bases and Data Systems. The following list of major databases comprises, for the most part, real-time operational data systems; however, summary statistics can

be and are regularly derived from them.

- Civil Aviation Security Information System provides information about security checks of airports, air carriers, and security stations; tracks security alerts, bulletins, and summaries; and records reports of arrests made at screening stations, bomb threats, explosion reports, screening device findings, hijackings, and use of K-9 teams.
- Comprehensive Airmen Information System includes information on personal, medical, and certification status of individuals associated with civil aviation operations including pilots, mechanics, flight crews, and others.
- Enforcement Information System contains data about violations of the Federal Aviation Regulations (FARs); violator's identification; the FAR violated; description of the aircraft, engine, or component involved; demographics; and recommended sanctions.
- Service Difficulty Reports System contains reports about abnormal, potentially unsafe conditions in aircraft, aircraft components, and aircraft equipment.
- Simulator Inventory and Evaluation Schedule System contains results of checklist inspection and certification activities, identification and correction of discrepancies, and vital statistics for operators and manufacturers.
- Manufacturing Inspection Man-agement Information System includes parts manufacturer approval supplements, technical standard order authorizations, information on production and quality control activities, type certification conformity inspections, results of applications for airworthiness certification of individual aircraft, reports of production flight tests, export certifications, and information about the private-sector designees authorized by FAA to perform manufacturing and airworthiness inspections.
- National Airspace Information Monitoring System (NAIMS) is an automated database management system used for tracking and analyzing reported safety-related incidents and rules violations occurring in the

NAS. NAIMS subsystems include the following:

- Operational Errors System contains reports on occurrences attributable to elements of the air traffic control system that result in less than the applicable minimum separation distance among: (a) two or more aircraft, or (b) an aircraft and terrain or obstacles, which include vehicles, equipment, or personnel on runways.
- Operational Deviations System contains reports on controlled occurrences in which applicable minimum separation distances as just defined were maintained, but one of the following situations occurred: (a) less than the applicable minimum separation distance existed between an aircraft and protected airspace without prior approval; (b) an aircraft penetrated airspace that was delegated to another position of operation or another facility without prior coordination and approval; (c) an aircraft penetrated airspace that was delegated to another position of operation or another facility at an altitude or route contrary to the altitude or route requested and approved in direct coordination or as specified in a letter of agreement, precoordination, or internal procedure; or (d) an aircraft, vehiperson equipment, or encroached upon a landing area that was delegated to another position of operation without prior coordination and approval.
- Pilot Deviations System contains reports on actions of pilots that result in alleged violations of airspace or ground air traffic control clearances.
- Near Midair Collisions (NMACs) are reports received from pilots or flight crew members (who were in the cockpit of one of the aircraft involved) stating that a collision hazard existed between two or more airborne aircraft, regardless of aircraft separation distance. The usual criterion for declaring an NMAC is an unintentional proximity of less than 500 ft.

- Pedestrian/Vehicle Deviations System includes reports on any entry or movement on an airport movement area by a vehicle or pedestrian that was not authorized by an air traffic controller.
- Runway Incursions are reports on occurrences at airports that involve an aircraft, vehicle, person, or object on the ground that result in loss of separation with an aircraft taking off, intending to take off, landing, or attempting to land.
- · Aviation Safety Reporting System (ASRS) is maintained by Battelle Laboratories under an FAA-funded National Aeronautics and Space Administration contract. ASRS was developed to store reports of situations observed by pilots, controllers, passengers, or mechanics that compromised safety, or had the potential to do so. Before entry into the database, the information is evaluated by ASRS analysts and is edited to ensure the anonymity of the reporting individuals. Limited immunity is provided to reporting individuals for inadvertent violation of FAA regulations.
- Accident/Incident System contains environmental data, contributing factors, weather conditions, and personal and medical data about the people involved in aircraft accidents and incidents. The National Trans-portation Safety Board (NTSB) also investigates accidents involving civil aircraft in the United States and collects data in the NTSB Accident and Incident System on accidents, fatalities, serious injuries, and accident rates per million passenger miles flown and per million aircraft miles flown for U.S. carriers (for scheduled and unscheduled service), commuter carriers, and general aviation.
- Air Traffic Operating Management System contains the number of flights delayed more than 15 minutes by cause of delay (e.g., weather, air traffic control center volume, airport terminal volume) and by airport. (This delay system should not be confused with the On-Time Flight Performance Reporting System operated by the OST Office of Intergovernmental and Consumer Affairs.)

- Air Traffic Activity System includes monthly information about activity at the FAA air traffic facilities—aircraft operations, aircraft handled, and flight plans filed.
- Aeronautical Information System contains operational and physical descriptions of all civil (public and private) airports; selected military airports, navigational aids, and flight service stations; air traffic control towers, air route traffic control centers, and airways; jet routes, military training routes, and preferred instrument flight rule routes; standard instrument approach procedures; standard terminal arrival routes; standard instrument departure routes; fixed reporting points; holding patterns; restricted, warning, alert, prohibited, and military operations areas; part-time control zones; and U.S. notices to pilots, mechanics, and other FAA-licensed aviation technicians.
- National Forecasting System includes annual forecasts of aviation activity and other selected statistics.
- Air Route Traffic Control Center Forecast is a facility level activity forecast.
- Flight Service Station Forecast is also a facility level activity forecast.
- Terminal Area Forecast contains activity forecasts for each of 5,000 public use airports.
- Hub Forecasts are detailed forecasts of major air carrier airports and all other airports within major metropolitan areas.
- National Outage Data Base contains down time and repair time, by cause, for airway and air traffic control facilities (e.g., radar, landing and navigational aids, etc.).
- Air Carrier Aircraft Utilization and Propulsion Reliability System contains monthly reports from air carriers of the flight hours and number of aircraft by manufacturer and model for aircraft used in air carrier service for the month.
- Aircraft Registration System includes registrant's name and address, registration status, and aircraft description for each aircraft registered with FAA.

Federal Highway Administration

Agency Mission

The roads and highways across the nation are used by more Americans more often than any other transportation system. The Federal Highway Administration (FHWA) oversees federal support for the facilities of greatest significance to the nation, including Interstate highways. The agency is concerned with the total operation and environment of highway systems, including highway and motor carrier safety. In administering its highway transportation programs, it gives full consideration to the impacts of highway development and travel; transportation needs; engineering and safety concerns; social, economic, and environmental effects; and project costs.

FHWA meets its data needs primarily through three offices. The Associate Administrator for Policy oversees the Office of Highway Information Management, which is responsible for collecting and publishing highway data from the states, managing related programs such as the Nationwide Personal Transportation Study, and coordinating statistical policy within FHWA. The Office of Policy Development, also under the Associate Administrator for Policy, manages census surveys of truck owners and business establishments. The **Associate Administrator for Motor Carriers** oversees the Office of Motor Carrier Information and Analysis, which is responsible for collecting and publishing safety data from motor carriers.

Current Data Programs

Data Collected Through States. The Highway Performance Monitoring System (HPMS) is FHWA's on-going, integrated, annual database, which consists of data on systems mileage, physical dimensions, usage, condition, performance, operating characteristics, and fatal and injury accidents. The HPMS data reported annually by each state consist of areawide data reports (e.g., areawide summaries of mileage, travel, accidents, travel activity by vehicle type, and population), universe

data (38 data items that identify the nation's total public road mileage by systems, jurisdiction, and operation), and sample section data for approximately 110,000 sample sections of the nation's arterial and collector highway systems (44 additional pavement, improvements, geometric, traffic and capacity, environment, and supplemental items are reported for each sample section).

An equally important part of the overall HPMS is a set of analytical models that are used to assess overall system performance, project future capital needs, and evaluate future system performance under varying assumptions of standards, travel growth, and investment levels. These models, which convert data into useful information, constantly undergo refinement.

Three types of data on traffic characteristics are collected, processed, and analyzed:

- Traffic volumes from continuous automated traffic recorders are reported by the states and used to produce a monthly report on traffic volume trends that tracks changes in travel by state and functional class of highway. Hourly traffic volume data are reported monthly for about 3,000 stations.
- Travel by urban and rural functional systems is furnished annually as part of each state's HPMS submittal. These data are, for the most part, based on traffic counts of the HPMS sections. On part of the HPMS samples, vehicles are classified to provide systemwide estimates of the proportion of travel by 13 vehicle types. Suggested traffic counting procedures are included in FHWA's traffic monitoring guide and in the HPMS field manual.
- Vehicle classification data collected at truck weigh stations and corresponding truck weight data are reported annually by the states. Axle weight data are converted to axle loadings, and a series of tables are produced for use in highway design, bridge design, pavement management, and truck enforcement programs. These data are collected by weigh-in-motion scales that provide the desired data without interrupting traffic flow. The processing of these data is done by microcomputer in a fully decentralized manner, which

allows state users to analyze the data themselves while creating the data files for transmittal to FHWA.

The state highway agencies report a series of data elements which form FHWA's highway statistics database.

- FHWA collects motor-fuel use data from the states on a monthly basis. "Motor fuel" applies to gasoline and all other fuels under the purview of state motor-fuel tax laws. In addition to gasoline, motor fuel can include "special fuels," which comprise diesel fuel, liquefied petroleum gases, and similar fuels when they are used to operate vehicles on highways, as well as gasohol and neat alcohol.
- The highway finance database contains information on highway receipts, disbursements, debt status, and other financial information of federal, state, and local agencies. Information included is on intergovernmental transfers of funds from the federal government to states, and from states to local governments. Revenue data includes the amount and source of funds, including tax sources and debt. Expenditure data are broken down by capital and maintenance spending, spending for administration, police and safety purposes, and debt service.
- Motor vehicle registrations are reported to FHWA by major vehicle classes including automobiles, buses, trucks, and motorcycles. FHWA also supplements the data supplied by the states with information obtained from other sources. For instance, the Truck Inventory and Use Survey conducted by the Bureau of the Census is one source that is used to achieve a level of uniformity in preparing various estimates and summaries.
- Each state and the District of Columbia administers its own driver licensing system and provides data to FHWA, which provides the basis for summaries of drivers licenses by type, sex, and age. This information is sometimes used as an exposure measure in the analysis of motor vehicle accidents and fatalities.

The National Bridge Inventory (NBI) is a mainframe computer system that

includes detailed identification, classification, condition, appraisal, and proposed improvement information on more than 570,000 bridges on U.S. public roads. Bridge information is submitted by states in tape format at least annually and can be submitted as individual updates or as a replacement of the entire file. NBI data are accessible on line using a report generator that can produce several reports in various formats. NBI data are used to manage the bridge program and answer questions concerning any physical aspect of the bridge system.

Data Collected From States and Motor Carriers. The Office of Motor Carriers (OMC) is responsible for overseeing the safety of the Interstate motor carrier fleet in the United States. The extensive data system that supports this effort is known as the Motor Carrier Management Information System (MCMIS). This is a computerized system that provides a comprehensive record of the safety performance of individual carriers for the use of OMC and authorized external organizations. The state portion of the MCMIS is known as SAFETYNET, which has and will continue to grow into a comprehensive data system for exchanging data among states and with the federal government. Information maintained in the MCMIS includes the following:

- Census: Carrier identification of the 200,000 interstate carriers, type and size of operation, commodities carried, as well as other characteristics of the operation are included.
- Review and Rating: Between 20,000 and 30,000 on-site reviews of carriers and hazardous material shippers are conducted annually by OMC field and state staff; reviews take place in the offices of the company and cover compliance with critical parts of the federal safety regulations.
- Inspections: Data are collected during the 500,000 roadside inspections of vehicles and drivers conducted annually; violations of regulations covering the driver and the vehicle, or specifically related to hazardous materials, are included.
- Accidents: Interstate motor carriers are required to file a standard accident report for accidents that meet or exceed federal reporting thresholds; in

addition, states report the occurrence of all reportable truck accidents.

Highway Safety Information System (HSIS) is a new highway safety database developed by FHWA and the University of North Carolina Highway Safety Research Center that provides detailed information linking accident, roadway, and traffic data for analyses of highway safety problems.

The current system includes five years of data (1985-1989) from five states: Illinois, Maine, Michigan, Minnesota, and Utah. Detailed information on accident characteristics, roadway features, and traffic volumes are available from each of the five states. Additional data on roadway geometrics, intersections, and guardrail characteristics are available from one or more states.

Data Collected From Households and Truck Owners. Nationwide Personal Transportation Study (NPTS) data are based on a nationally representative sample of households from which the amount and nature of personal travel by all modes is collected. NPTS has been conducted by the U.S. Bureau of the Census under contract with DOT in 1969, 1977, and 1983. FHWA has had the responsibility for the technical and administrative lead for DOT. Data collection for the most recent survey, using a computer-assisted telephone interviewing (CATI) technique, was completed in March 1991 under contract with the Research Triangle Institute of North Carolina. Substantial funding was provided by FHWA, the National Highway Traffic Safety Administration (NHTSA), and the Federal Transit Administration (FTA). Results are used within the department to address national transportation policy issues, forecast future travel demand on various modes, analyze transit use, and calculate accident exposure rates. NPTS is the only authoritative nationwide source of information that allows a linkage between the characteristics of travel and the demographics of the household. Key indicators available from NPTS include trip generation rates per household; distribution of households by income and vehicle ownership; distribution of person trips by mode, purpose, and time of day; and average annual miles by driver age and sex. Data collection for updates of NPTS is planned for 1995.

The Nationwide Truck Activity and

Commodity Survey (NTACS) is conducted for FHWA by the Bureau of the Census as a follow-on to the Census Bureau's Truck Inventory and Use Survey (TIUS). (See section on U.S. Bureau of the Census.)

National Highway Traffic Safety Administration

Agency Mission

The mission of NHTSA is to improve the safety of motor vehicle transportation through the development of a systematic approach for the identification and elimination of motor vehicle and highway safety problems. The National Center for Statistics and Analysis (NCSA) serves this mission through the collection and analysis of motor vehicle crash data, the development of advanced technologies for data collection, and the creation of improved analysis techniques.

The data are used by NHTSA in support of research and the development of motor vehicle and highway safety policies and programs. The analysis of these data provide the scientific foundation for the agency's legal and regulatory actions. These databases are also the primary source of information on motor vehicle and highway safety to other DOT agencies, especially FHWA, and to the auto manufacturing and insurance industries, state and local governments, and consumer interest groups.

Current Data Programs

NCSA develops and uses large-scale automated databases to support problem identification, program planning, and program evaluation. The main crash data systems supported by the agency are the following:

Fatal Accident Reporting System. The Fatal Accident Reporting System (FARS) provides basic information on all highway traffic crashes in the United States in which one or more persons die of their injuries within 30 days of the accident.

FARS has been in operation since 1975, producing a census of records on more than 825,000 crash-induced fatalities. These data are collected from the 50 states,

the District of Columbia, and Puerto Rico. The data provide information on the demographics of the people involved, their injuries, the types of vehicles involved, the roadway and environment, alcohol involvement, restraint usage, and the history of each driver's previous violations and accidents

National Accident Sampling System. The National Accident Sampling System (NASS) provides information from investigations of a statistical sample of policereported traffic crashes at all levels of injury severity. NASS consists of two components: the Crashworthiness Data System (CDS) and the General Estimates System (GES).

CDS currently comprises detailed investigations of real world highway crashes involving passenger cars, light trucks, and vans, which provide detailed information on the crashworthiness and occupant protection afforded by these vehicles.

Information is collected on the sequence of crash events, the severity of the crash, occupant injuries and their causes, and details of vehicle crash protection performance. These data provide national estimates of the scope and extent of highway crash injuries and causes. Occupant protection research and rulemaking depend on this database for the detailed crash investigation-related data needed to understand crash injury mechanisms in a real world environment, and for countermeasure development and assessment.

GES currently comprises a uniform data file on a statistical sample of policereported traffic crashes, which provides the basis for estimates of the general state of traffic safety. The current GES collects more than 40,000 cases per year for the preparation of general estimates of highway crash statistics. They are the only data the agency has that provide national estimates of traffic crash characteristics for all types of vehicles, and this is the only database that provides these estimates with measurable reliability. In cooperation with FHWA, the NASS-GES system has been expanded to include additional data on heavy truck crashes to provide national estimates of heavy truck safety.

State Data Program. This data program provides a large database that consists of all police-reported accidents from a large number of states. This database

allows for a wide variety of motor vehicle and highway safety issues to be assessed and currently contains data from 26 states.

The Crash Avoidance Research Data File is currently one of the main constituents of the State Data Systems Program. Its function is to collect and analyze data dealing with factors that contribute to crashes. Ancillary databases, such as the Crashworthiness Data File, are being expanded and will be used in the statistical analyses of motor vehicle and highway safety issues.

The purpose of the State Data Systems Program is to build a large, high quality, statistically useful database. NCSA is currently working with several states in a research program focused on linking diverse state databases. The Crash Outcome Data Education (CODES) data linkage program is attempting to link police crash reports with emergency medical services' data, hospital discharge data, and insurance data on a statewide, populationbased design. The linkage of automated state traffic crash data with Emergency Medical Services (EMS) and hospital-collected trauma data will enhance the quality of State Databases dramatically. Currently, crash databases at the state level traditionally provide only a general classification of the seriousness of a victim's injuries available from a police officer's assessment at the crash scene. Crashworthiness analyses often require more detailed descriptions of injuries (e.g., type of injuries and location at which they were sustained). Further, the data will be of vital importance for determining societal costs and who is paying these costs. Both pieces of information can be used to identify and support new highway safety initiatives.

Federal Transit Administration

Agency Mission

The mission of the Federal Transit System (FTA, formerly UMTA) is to assist public and private mass transportation companies in the development of improved mass transportation facilities, equipment, techniques, and methods; encourage the planning and establishment of areawide urban mass transportation systems needed for economical and desirable urban development; and provide assistance to state and local governments in financing these systems.

Current Data Programs

The Uniform System of Accounts and Records (Section 15) Reporting System was statutorily authorized as the basis for formula allocation of FTA's Grant-in-Aid programs in the early 1980s. The Section 15 Reporting System provides data on transit revenues by source; transit expenses by function and object class; nonfinancial operating data, including maintenance, employee counts, and service measures; and performance indicators, which relate measures of service outputs or use (e.g., vehicle-revenue-miles and passenger-miles) to measures of resource inputs (e.g., revenue vehicles and labor hours).

Grants Management Information System. The Grants Management Information System provides comprehensive information on all grants and contracts that FTA has made since the 1960s.

Financial Management System. The Financial Management System provides financial information on allotments, operating budget authority, and disbursements.

Other Data Activities. FTA contracted with the Community Transportation Association of America in 1985 and again in 1989 to prepare a directory of rural (Section 18) and elderly and handicapped [Section 16(b)(2)] transit service providers that includes information about type of service offered, fleet size, and county(ies) in which the service operates.

Federal Railroad Administration

Agency Mission

The mission of the Federal Railroad Administration (FRA) is to promulgate and enforce rail safety regulations, administer railroad financial assistance programs,

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conduct research and development in support of improved railroad safety and national rail transportation policy, provide for the rehabilitation of Northeast Corridor rail passenger service, and consolidate government support of rail transportation activities, and facilitates the development of new and improved rail technology.

Current Data Programs

Carload Waybill Sample. The annual Carload Waybill Sample contains comprehensive detailed information provided by Class I freight railroads from a stratified sample of rail waybills to the Interstate Commerce Commission (ICC) about actual rail shipments, including commodities carried; railroads involved; origin, destination, and junction points; number of carloads; tons transported; and total revenues. ICC contracts with the Association of American Railroads to collect and process the data. FRA, which provides half of the funding for the waybill sample, uses a confidential version to produce periodic and ad hoc reports for use in traffic and competitive analyses in support of DOT policy development. A more aggregated sample, which does not reveal specific carriers or shipper locations, is available to the public.

Freight Commodity Statistics. This annual database contains detailed commodity data filed with ICC by Class I railroads on tons and carloads of local, forwarded, received, overhead, and total traffic. Revenue for each commodity is also submitted. This source supports inhouse analyses requiring traffic mix information for individual Class I railroads.

National Rail Planning Network. This database contains a digital representation of the major continental U.S. railway systems, covering some 186,000 miles of track. A typical FRA analysis involves flowing the waybill sample data over the network to examine nationwide hazardous materials by rail.

Railroad Inspection Reporting System. The Railroad Inspection Reporting System (RIRS) is used to monitor each FRA-performed inspection and record the nature of each defect uncovered and any follow-up action by the railroad to correct the deficiency. RIRS contains four databases, each with its own forms and reports: (a) Signal, Track, and Motive

Power (locomotives); (b) Equipment (cars); (c) Operating Practices; and (d) Hazardous Materials. Reports on inspector activity are generated monthly; other periodic reports summarize railroad noncompliance. FRA also produces ad hoc reports on specific elements of the inspection form by railroad or division.

Railroad Accident/Incident Reporting System. The Railroad Accident/Incident Reporting System includes all railroad accidents, grade-crossing accidents, railroad employee casualties, and any other injuries on railroad property. These databases provide the basis for accident analyses and assessments as well as the annual Accident/Incident Bulletin.

Grade Crossing Inventory System. This system contains a record of every public and private crossing in the United States along with the accident history of each crossing. This database is often used in conjunction with the Grade Crossing Accident Reporting System to generate Grade Crossing Accident Prediction reports requested by states and railroads.

Transborder Surface Transportation Data Project. FRA funded a census study which demonstrated the feasibility of coding the foreign trade data compiled by the U.S. Census Bureau to reflect the ground modes of transportation of U.S. exports to and imports from Canada and Mexico. Based on that study and FRA's data specifications, the Bureau of Census entered into a contract with the Bureau of Transportation Statistics to provide DOT with monthly files summarizing these data. BTS is disseminating the public files with summary statistics compiled by FRA.

Maritime Administration

Agency Mission

The Maritime Administration (MARAD) administers programs to aid in the development, promotion, and operation of the U.S. merchant marine. Financial assistance programs are administered to support provision of essential services on U.S. flag carriers and construction of ships in U.S. shipyards. MARAD helps industry generate business for U.S. ships, conducts

programs to promote development of efficient port facilities and intermodal transport, and promotes domestic shipping. It is also charged with maintaining the National Defense Reserve Fleet and its component Ready Reserve Force, and with organizing and directing emergency merchant ship operations.

Current Data Programs

The following is a brief summary of some of MARAD's principal data systems. It is not intended to represent an exhaustive inventory of all databases maintained by MARAD but to indicate the scope and diversity of MARAD requirements, the various sources of such data, and the types of issues to which such data may be applied.

Maritime Statistical Information **System.** The Maritime Statistical Information System is a relational database that combines MARAD's foreign trade, vessel, and itinerary data. The foreign trade subsystem is primarily Bureau of Census foreign trade data but also includes complete itineraries of more than 35,000 vessels worldwide—data purchased from Lloyd's Maritime Information Service. Foreign trade data obtained from the Bureau of Census includes information that identifies both the vessel and the operator, which is not available to the public. This data is used within MARAD as the basis for calculating subsidy rates and in support of a wide range of agency programs from operating subsidies and ship financing to bilateral trade negotiations.

The vessel subsystem contains detailed vessel characteristics on more than 35,000 merchant vessels worldwide and includes information from a variety of sources on such items as container capacity, and whether the vessels are government or privately owned, were built with subsidy, have outstanding financing guarantees, or participate in the war risk binder program. The data form the basis for many MARAD publications and support, in some way, virtually all of MARAD's commercial and defense-related programs.

Port Facilities Inventory. This system contains detailed information on more than 4,000 major ocean and river port facilities, including location, physical characteristics, cargo handling equipment and capacities. It supports MARAD's program

to provide technical assistance in port and intermodal planning and operations to state and local port authorities, private industry, and foreign governments. It also supports MARAD's program to develop contingency plans for the use of ports and port facilities to meet defense needs.

Domestic Trade Data. MARAD obtains domestic waterborne commerce data from the Corps of Engineers and produces a variety of reports in support of the agency's programs dealing with the inland waterways, Great Lakes, and domestic ocean trade—U.S. flag transportation segments that account for more than one billion tons of cargo each year. The database also includes detailed information on vessels and operators engaged in domestic commerce.

Financial Reporting and Contract Surveillance. The Financial Reporting and Contract Surveillance System (FRACS) contains financial reports and vessel operating statements for the more than 200 companies that have been required to submit statements to MARAD. FRACS also contains basic information about the companies and the MARAD contracts to which they are party. It enables MARAD to monitor financial and operating results on a timely basis and gives decision makers the benefits of an automated retrieval system.

Cargo Preference Data. To meet a congressional mandate to monitor compliance with cargo preference laws to maximize the use of U.S. flag vessels, MARAD monitors the shipping activities of federal agencies, independent establishments, and government corporations. To perform this activity, MARAD maintains a computerized reporting system that processes information from bills of lading collected directly from responsible parties.

Intermodal Equipment. MARAD compiles and publishes an annual Intermodal Equipment Inventory—a comprehensive statistical review and classification of equipment owned by U.S.-flag marine carriers and major container leasing companies operating in the U.S.

Maritime Labor. MARAD supports the training of merchant marine officers through operation of the U.S. Merchant Marine Academy and provision of financial assistance to six state maritime academies. MARAD also monitors maritime industry labor practices and policies in conjunction with national and international organizations. In support of these programs, MARAD collects and publishes data on maritime employment—seafaring, shipyard, and longshore. These data are used extensively in developing training programs, making policy regarding academy and state school support, and defense planning.

Sealift Planning. In connection with its national security responsibilities, MARAD maintains databases to evaluate U.S. shipbuilding and repair capabilities and forecast U.S.-flag and U.S.-owned foreign-flag fleets.

U.S. Coast Guard

Agency Mission

The mission of the U.S. Coast Guard (USCG) is to enforce or assist in the enforcement of all applicable federal laws on the high seas and waters subject to the jurisdiction of the United States; administer laws, and promulgate and enforce regulations for the promotion of safety of life and property on the high seas and on waters subject to U.S. jurisdiction, covering all matters not specifically delegated by law to some other executive department or reserved to the states; develop, establish, maintain, operate, and conduct, with due regard to the requirements of national defense, aids to maritime navigation, icebreaking facilities, oceanographic research, and rescue facilities for the promotion of safety on and over the high seas and waters subject to U.S. jurisdiction; maintain a state of readiness to function as a specialized service in the Navy in time of war; and establish and maintain a coordinated environmental program and a comprehensive ports and waterways system, including all aspects of marine transportation.

Current Data Programs

Recreational Boating Safety System.The Recreational Boating Safety database contains reports on recreational boating accidents that occur in state waters or in waters under joint state and federal con-

trol that result in loss of life, injury requiring medical attention beyond first aid, damage to the vessel and other property exceeding \$200, or complete loss of the vessel. The accident reports provide information on the time of day and year of the incident, environmental conditions, type of incident, and cause. Data are also collected on boat registrations, which provide a basis on which to calculate accident and fatality rates.

Casualty Maintenance System. The Casualty Maintenance System (CASMAIN) is a database administered by the Marine Investigation Division that contains data on commercial vessel casualties, including injuries and deaths. A typical report includes information on case numbers, vessel identification numbers (VINS), casualty coordinates, vessel names and types, gross tonnage, the primary nature and cause of the accident, weather-related information, and reported damage.

CASMAIN queries are solicited from all facets of marine industry (i.e., associations, unions, vessel owners, operators, and manufacturers. Users include Congress; local, state, and federal government agencies; financial institutions; universities; medical research facilities; settlement attorneys; salvage operators; and foreign embassies.

Merchant Mariners Documentation **System.** The Merchant Mariners Documentation System includes the marine licensing program and is located in the Office of Marine Safety, Security and Environmental Protection. The system, among its other functions, maintains files of shipping articles and master lists for reference in documenting service time for mariners and providing service records to mariners, the maritime community, and other interested parties. It also maintains records of every mariner's service and other related information. This replaces the Seaman Documentation and Records System.

Search and Rescue Management Information System. The Search and Rescue Management Information System is administered by the Office of Navigation Safety and Waterways Services, which provides for the collection, storage, and retrieval of information on the Coast Guard's responses to search and rescue (SAR) incidents. The primary

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use of the system is to derive a picture of the demands made of USCG by SAR clientele and project these demands to measure unit workloads, determine resource use and needs, justify budget requests, and analyze system operations for potential savings.

Marine Safety Information System. The Marine Safety Information System (MSIS) is a data system that supports USCG marine safety regulatory programs. The system tracks inspections of U.S. and foreign vessels (including their cargoes and equipment), offshore oil and gas facilities, and port facilities (e.g., cargo docks) for such safety-related items as presence of hazardous materials and adequacy of fire-fighting equipment. Vessel inspection and violation histories are used, among other purposes, to assist in USCG boarding decisions. MSIS also records and tracks casualty information for marine accidents by vessel; full investigative reports are contained in CASMAIN, although the two systems will soon be linked electronically. Finally, MSIS tracks information about pollution incidents, including the parties and vessels involved and the costs.

Marine Pollution Retrieval System. The Marine Pollution Retrieval System (MPRS) and its predecessor, the Pollution Incident Reporting System, were designed for the Marine Environmental Response Program to generate a database of pollution incidents. MPRS reports pollution incidents that occur within all navigable waters of the United States. The database tracks the number of pollution incidents; the nature, cause, extent, location, and time of the spill; and the parties involved. Annual summary data are prepared and published periodically in a report entitled Polluting Incidents In and Around U.S. Waters.

Saint Lawrence Seaway Development Corporation

Agency Mission

The Saint Lawrence Seaway Development Corporation (SLSDC), a wholly government-owned enterprise, is responsible for the construction, operation, and maintenance of the St. Lawrence Seaway between the port of Montreal and Lake Erie within the territorial limits of the United States. Traffic development functions are to enhance System utilization without respect to territorial or geographic limits. It is the function of SLSDC to provide a safe, efficient, and effective water artery of maritime commerce, in coordination with the Seaway Authority of Canada (SLSA).

Statistical activities of the SLSDC are used to support these responsibilities. SLSA provides data collection services for both agencies through a memorandum of agreement. Published annual data collection is specific to the Seaway and focuses on the flow of cargo and vessels through the system.

Current Data Programs

SLSDC and DLDA jointly publish an annual traffic report for the Seaway System which includes historical summaries from 1959 forward. The Seaway Corporation participates in the Journal of Commerce's Port Import/Export Reporting System for on-line data service and selected hard copy data distributions.

U.S. Bureau of the Census

Overview and Data Collection Mandate

The Census Bureau is a general purpose statistical agency that collects, tabulates, and publishes a wide variety of data about the people and the economy of the nation. Over the years the Census Bureau has conducted a limited number of transportation statistics programs and currently is significantly expanding transportation industry statistics to meet increased data user needs.

The Bureau of the Census is required by law to collect and publish general purpose data on the state of the economy and the population through censuses and sample surveys. The majority of the data are used directly by other agencies as input to their programs or to supplement other data collections to meet specialized needs such as price indexes, productivity measures, and economic development. The data collection authorization of the census covers all sectors of the economy, except when a regulatory organization requires data collection to complete its own mission. Duplicative data collection is not allowed, and therefore regulatory data is often used for general economic and policy decisions. The bureau serves as the data collecting and compiling agent for other government agencies.

Current Transportation-Related Data Programs

Quinquennial Economic Census Programs. The Census of Transportation, conducted for the years 1987 and 1992, consists of two parts: establishment-based universe statistics for selected transportation industries, TIUS, the Commodity Flow Survey (CFS), and the American Travel Survey (ATS) provide basic commodity and passenger flow data.

The transportation establishment statistics correspond to those collected for other kinds of business in other economic censuses. They provide data on general finances and employment and on number of establishments. They cover only three of the eight major groups in the transportation-related part of the Standard Industrial Classification (SIC) system—42: Trucking and Warehousing, 44: Water Transportation, and 47: Transportation Services.

For many of the industries in the transportation census (e.g., trucking), the establishments have activities, workers, and equipment that may move from place to place. For the census, an establishment is a relatively permanent office, shop, station, terminal, or warehouse. Census figures for states and metropolitan areas reflect permanent establishment location and not necessarily the location where the trucking or other activities take place.

The establishment counted in the Census of Transportation offers services to the general public or to other business enterprises. Establishments that furnish similar services (e.g., warehousing) only to other establishments of the same company are classified as auxiliary to the other units of the company that they serve. Data for auxiliaries are presented in a report issued as part of the 1987 Enterprise Statistics series, but not in the Census of Transportation. The census

excludes firms that do not have paid employees. Thus, for example, many independent truckers are not included in the 1987 establishment statistics.

TIUS, taken every 5 years as part of the economic census program, reports on the physical characteristics and operational use of the nation's private and commercial trucks. Unlike other economic census programs, the coverage of TIUS cuts across SIC classifications and even includes personal vehicles, although vehicles owned by federal, state, and local government agencies are not covered. Some private or commercially owned vehicles that do not have to be licensed (e.g., trucks used exclusively on private property) are also excluded. The 1987 TIUS includes physical characteristics of the nation's private trucking fleet, such as vehicle type, gross weight, type and size of engine, type of transmission and braking system, power steering, fuel conversion, air conditioning, type and size of body, power axles, axle arrangements of trailer units, and cab type. The survey also includes operational characteristics, such as base of operation; number of trucks, truck-tractors, and trailers operated from base of operation; area of operations; vehicle miles; miles per gallon; use of vehicle; and type of commodities carried (including hazardous materials).

For 1987, about 135,000 private and commercial trucks were sampled from approximately 44.8 million state vehicle registrations.

The Census of Manufactures 1982, 1987, 1992 includes establishment coverage of more than 10,000 transportation equipment manufacturers. Coverage includes all eighteen 4-digit industries of equipment manufacturers in SIC 37, from guided-missile to recreational-camper manufacturers. Data include employment, wages, value of shipments, value added, capital expenditures, operating expenses, assets, and inventories.

Coverage of the *Census of Governments* 1982, 1987, 1992 extends from the federal government and the 50 state governments to some 83,000 units of local government—counties, cities, towns, school districts, and special districts. Data collected include full- and part-time employment and payrolls; revenues by type and sources, expenditure by character, object, and function (including an array of transportation-relat-

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ed functions); indebtedness by type and purpose; and assets held by the government as cash or investments in securities.

Census of Construction 1982, 1987, 1992 coverage includes transportation-related construction establishments, such as those primarily engaged in highway, street, bridge, and tunnel construction. Data include the value of work done, assets, expenses, capital expenditures, and employment.

Census of Agriculture 1982, 1987, 1992 provides a universe count of farms and farm production by small geographic location is provided by this census. Data highlight the county of agricultural production (which is typically transported by truck, rail, or water) plus expenses and assets, including fuel costs and trucks used.

Enterprise Statistics 1982, 1987, 1992 regroups census data for establishments under common ownership or control to show various economic characteristics of the owning or controlling firms. This program also yields separate data about auxiliary establishments. An auxiliary establishment is one whose employees are primarily engaged in performing supportive services, such as trucking and warehousing, for other establishments of the same company instead of for the general public or other business firms. Information available includes the number of auxiliaries and payroll, the number of employees engaged in several different types of service, sales or receipts, end-ofyear inventories, rental payments, selected expense data, and so forth.

Decennial Demographic Census includes questions on the means of transportation people use to get to work by geographic location of their work place have been included in the decennial Census of Population and Housing since 1960. In 1980, items on travel time to work and carpool occupancy during the work trip were added. In 1990 information on the time at which individuals left home to go to work was collected for the first time in the Census of Population and Housing. Data on these topics are made available in printed reports and on computer tapes for geographic areas such as census tracts, places, counties, metropolitan areas, and states.

Existing Economic Survey Programs

 Motor Freight Transportation and Warehousing Survey (WATS) is an annual survey based on a sample of 1,500 firms that represent all employer firms with one or more establishments that are primarily engaged in providing for-hire commercial motor freight transportation and warehousing services. This includes firms that furnish local or long-distance trucking or transfer services and those that store farm products, furniture and other household goods, or commercial goods of any nature. The survey provides about 50 data items on operating revenues and operating expenses, plus inventories of revenue-generating equipment for establishments in SIC 42 for the United States. Comparable statistics are shown for the previous year along with year-to-year percentage changes. Publication is released about 9 months after the period of reference.

- The Nationwide Trade Activity (NTACS) is a DOT-sponsored followon survey to the quinquennial TIUS, and has been designed to obtain operational characteristics and activity patterns of trucks by collecting trip-specific information primarily from commodity-carrying trucks. It provides essential information for the analyses of truck size and weight issues, highway user charges, safety issues, energy and environmental constraints, proposed investments in new roads and technology, hazardous materials transport, and other aspects of the Federal-Aid Highway Program. Questions on NTACS also provide linkages between TIUS and other existing sources of truck-related information.
- Annual Survey of Manufactures provides data on domestic manufacturers' production of transportation equipment, including value of shipments, expenses, and other key measures for 18 transportation equipment manufacturing industries.
- Annual Government Finance Surveys provide coverage of the federal government, 50 state governments, and a sample of some 22,000 local governments—counties, cities, towns, school districts, and special districts. Data collected include full- and parttime employment and payrolls; rev-

enues by type and source, including transportation-related sources (e.g., motor fuel taxes, toll charges); expenditure by character, object, and function (including an array of transportation-related functions); indebtedness by type and purpose; and assets held by the government as cash or investments in securities.

Surveys of Transportation Equipment Manufacturing provide national estimates of domestic production of aerospace equipment, aircraft, and truck trailers.

- al series of national and state publications presenting county-level data on the number of establishments with paid employees, total employment, and payroll on an establishment basis, with economic activity classification reflecting the principal activity at each individual location. The coverage includes about 45 transportation industries in each of more than 3,000 counties.
- Foreign Trade Statistics provide a monthly census of U.S. export and import transactions on the basis of official documents that shippers and receivers must file with the U.S. Customs Service for each shipment. These figures reflect the flow of merchandise, but not such intangibles as services and financial commitments. The trade figures trace commodity movements out of and into U.S. Customs jurisdictions. Key variables in foreign trade reports are export value calculated free alongside ship (f.a.s.), import value, specific commodities shipped, and foreign country of origin or destination. Additional variables shown selectively include SIC-based product code, methods of transportation (e.g., air, sea, or land), U.S. state of origin or destination, U.S. and foreign ports, quantities shipped, and weight for air and sea shipments.
- Plant and Equipment Expenditure Survey is a quarterly publication of transportation equipment manufacturers that provides investment information for manufacturing and transportation service firms.
- Quarterly Financial Report contains

up-to-date aggregate statistics on the financial results and position of U.S. corporations. The report presents estimated statements of income and retained earnings, balance sheets, and related financial and operating ratios for the transportation equipment industry, including detailed information on motor vehicles and motor vehicle equipment, aircraft, and parts.

Existing Demographic Surveys include:

- Information has been collected in the American Housing Survey (AHS) since the mid-1970s on means of transportation to work, travel time to work, and distance to work. Other data items, including information on the geographic location of the work place, have been collected periodically from both the national sample and the individual metropolitan area samples of AHS. Data are available in printed reports, public-use microdata files, and unpublished tabulations for selected large cities and counties, and for the nation.
- Transportation expenses are collected as part of the Consumer Expenditure Quarterly Interview Survey, which provides information on how various groups of U.S. consumers spend. The survey data include large expenditures, such as automobiles, and expenditures that occur on a regular basis, such as gasoline and insurance premiums.

Approved and Budgeted Programs Under Development

The expanded 1992 Census of Transportation will present significantly more transportation establishment statistics on revenues, payroll, and employment by varied transportation classifications. It will provide these data for 43 4-digit industries in the following major SIC groups.

SIC Major Group Title

- 41 Local and Suburban Transit and Interurban Highway Passenger Transportation
- 42 Motor Freight Transportation and Warehousing
- 44 Water Transportation
- Transportation by Air (excludes large certificated passenger air carriers)

46 Pipelines, except Natural Gas47 Transportation Services

This represents an expansion in the scope of the Transportation Census for 15 industries in major groups 41, 45, and 46, incorporating more than 24,000 additional establishments with more than 860,000 employees. General financial and employment data, and number of establishments will be provided.

The questionnaire and collection methodology for these industries were tested as part of the 1989 pretest. Review of the data collected on these questionnaires and the accompanying evaluation forms should provide the information needed to finalize the coverage and questionnaire design for these industries in 1992.

Additionally, collection of data for the railroad industry and large certificated passenger air carriers is under consideration. Review of the data available from other government agencies (ICC and DOT, respectively) and the reportability of requested data and information from the pretest will determine whether these industries should be within the scope of the 1992 Census.

Plans are to publish data from the 1992 Census on a national basis and, where not prohibited by confidentiality restrictions, for selected states and metropolitan statistical areas. Publication plans for 1992 include the release of summary data for nonemployers in transportation industries for the first time.

Future Planned Surveys

Charter, Rural, Intercity Bus Survey. This annual survey would provide a complete enumeration of approximately 2,000 firms offering intercity, rural, or charter bus transportation services. Estimates of annual dollar volume for intercity and charter bus activities range from \$5 to \$8 billion. The 1982 Bus Regulatory Reform Act seriously reduced the amount of data on intercity bus activity. Although intercity scheduled service has continued to decline, charter and tour ridership is growing. More than 40 data items on revenues and expenses are planned. If approved, the survey, covering calendar year 1992 activities, will be published in December 1993.

Transportation Services Survey. This annual sample survey would cover all employer establishments from a universe of 34,000 establishments providing transportation services (SIC 47). Estimates of dollar volume for services incidental to transportation range from \$12 to \$14 billion annually.

Regulatory reform has had a profound effect on the structure of freight transportation as traditional lines of delineation between arrangers of freight transportation have become blurred. All public data collection on freight forwarding ceased in 1980. About 35 data items on detailed revenues and expenses are planned. If approved, the survey, covering calendar year 1992 activities, will be published in December 1993.

Water Transportation Survey. All employer firms providing water transportation services would be covered in this annual sample survey. The industry consists of 7,500 establishments with estimated revenues of \$7 to \$9 billion.

Existing data sources deal almost exclusively with the physical characteristics of the system—vessels, waterways, and port facilities of the industries—or with commodity movements. The passenger transportation segment of this industry is one of the fastest-growing components of the travel sector. About 40 detailed data items on revenues and expenses are planned. If approved, the survey, covering calendar year 1992 activities, will be published in December 1993.

Proposed Joint Projects

State and Local Government Transportation Survey. This proposed survey would fill an important need for information about the resources state and local governments devote to the provision of transportation infrastructure and services. The survey would include all aspects of government transportation services, including highways, water transportation, air transportation, and transit operations. The data would emphasize the financial and personnel resources that state and local governments provide to construct, maintain, and operate these services.

The existing data on state and local government transportation services is fragmented by the diffuse nature of federal, state, and local government organizations. The Census Bureau's data collection programs on state and local government finances and employment provide an ideal base for establishing a comprehensive transportation information system (i.e., uniform time frame, definitions, data classification, and data collection methods).

This would be a voluntary survey of all state governments and a sample of individual local governments—counties, municipalities, townships, school districts, and special districts. The financial data would cover the entire range of financial activities: revenues (motor fuel taxes, transit charges, federal revenues); expenditures (highway construction, transit system current operations); indebtedness (types of debt financing for airports and highways); and gross assets (including highway trust funds). For comparative purposes, the employment data, showing number of employees and payroll, would cover the same functional areas as the expenditure information. In addition, information would be collected from school systems about the costs related to transportation of pupils.

In summary, this survey would provide, for the first time, comprehensive state and local financial data on transportation activities. New consistent data would be published annually for the following categories: (a) gross value of transportation assets by governmental unit by transportation function and (b) specific relationship of governmental financing along with the actual expenditures (e.g., federal government contribution and debt financing by transportation function and purpose). Information on funding sources will include tax levies, debt issues, fees charged, and miscellaneous revenues.

Bus and Government Vehicle Survey. Little is known about the use of the highway system by buses and government-owned vehicles. An estimated two million of these vehicles are currently in use, and they certainly could have an important impact on highway condition. In addition, complete information on bus and government vehicle road use is needed for accurate forecasting of highway capacity and investment requirements.

The Census Bureau and DOT are evaluating existing data sources in these areas and formulating a proposal for efficiently measuring and monitoring annual changes.

U.S. ARMY CORPS OF ENGINEERS

Agency Mission

The United States Army Corps of Engineers (COE) serves as the Army's real property manager, performing the full cycle of real property activities (requirements, programming, acquisition, operation, maintenance, and disposal); manages and executes engineering, construction, and real estate programs for the Army and the U.S. Air Force; and performs research and development in support of these programs. COE manages and executes Civil Works Programs, which include research and development, planning, design, construction, operation and maintenance, and real estate activities related to rivers, harbors, and waterways; and administers laws for protection and preservation of navigable waters and related resources such as wetlands. It also assists in recovery from natural disasters.

Through its Navigation Data Center, COE collects, processes, manages, and disseminates a variety of statistical data relating to foreign and domestic waterborne commerce, vessel and port facility descriptions, and navigation lockages. The reports include annual statistical tabulations of domestic and foreign commodity movements on U.S. waterways and within ports, an annual directory of operating domestic vessels, periodic revisions of port facility descriptions, quarterly detailed statistics for each Corps of Engineers-operated lock, and dredging statistics. Information is provided both in published reports and on data processing software.

The Navigation Data Center provides coordination of navigation information within COE, the U.S. Department of Defense, all federal and nonfederal agencies, and with private partners and the general public, to ensure effective data collection and dissemination strategies. The center consists of the Waterborne Commerce Statistics Center, the Port Facilities Branch, and two teams covering the lock performance monitoring system and dredging statistics.

Current Data Programs

Waterborne Commerce and Vessel Statistics. Waterborne Commerce of the United States (WCUS), Parts 1-5, contains statistics on the commercial movement of foreign and domestic cargo available in both hard copy and computer tape. The Public Domain Data Base of WCUS contains aggregated information on waterborne commodity movements by 26 geographical areas, available in both hard copy and computer tape. The Principal Ports Tonnage Report ranks U.S. ports for a calendar year by total tons, domestic and foreign. The State Tonnage Report contains total waterborne commerce by state. The Transportation Lines of the U.S. lists vessel operators and their addresses, type and physical description of vessels, principal service, location, and commodity served. The Navigation Data Center handles special requests for commerce and vessel statistics, which are not contained in standard products, on a case-by-case basis.

Port Facilities. These data consist of the physical and intermodal characteristics of the coastal, Great Lakes, and inland ports in the United States. Fifty-six Port Series Reports are published at intervals of approximately 7 years, covering more than 200 individual port areas. Reports consist of complete descriptions of a port area's waterfront facilities, including detailed information on berthing accommodations, petroleum and bulk handling terminals, grain elevators, warehouses, cranes, transit sheds, marine repair plants, fleeting areas, and floating equipment. A special 1988 report, Summary of Commodity Handling Terminals of the United States Inland Waterways, groups the various terminals by type of commodity handled and includes location, berthing length, cargo direction, operating rate, and storage capacity for each facility.

Lock Performance Monitoring. Lock Performance Monitoring (LPM) data consist of descriptions of the traffic through locks on the inland waterway system as well as the physical aspects of lockages. Specifically, data is collected on vessel name, number, river direction, number of cuts, lockage, entry and exit type, arrival time, lockage time, and factors that may

have interfered with the lockage. Vessel data include vessel name and number, flotation dimensions, number of passengers, barge types, number, and type and tonnage. The LPM system produces several reports, including a semiannual *Summary of Lock Statistics and an Overview of the Lock Performance Monitoring System*.

Dredging Statistics. Dredging statistics include data on bid schedules, location of contact, dredge type, and cubic yards. The Navigation Data Center is responsible for defining and developing a new system during fiscal years 1991 and 1992 to provide both industry and the corps with a more current and accurate dredging data program.

Interstate Commerce Commission

Agency Mission

The Interstate Commerce Commission (ICC) regulates interstate surface transportation, including trains, trucks, buses, water carriers, freight forwarders, transportation brokers, and a coal slurry pipeline. The regulatory laws vary depending on the type of transportation; however, they generally cover certification of carriers seeking to provide transportation for the public and their rates, adequacy of service, purchases, and mergers. The commission ensures that the carriers it regulates will provide the public with rates and services that are fair and reasonable.

With enactment of the Railroad Revitalization and Regulatory Reform Act of 1976, the commission's statutory mandate was altered to provide for less regulation over rail freight rates and practices. This fundamental shift in national transportation policy was reinforced by enactment of the Motor Carrier Act of 1980, the Staggers Rail Act of 1980, the Household Goods Transportation Act of 1980, and the Bus Regulatory Reform Act of 1982. These measures provided for a sharply reduced federal role in regulating the trucking, railroad, and bus industries.

Although ICC statistical activities have been reduced, the agency still produces a number of important statistical products. The areas of coverage include railroads and motor carriers of property and passengers (i.e., trucks and buses).

In each modal area the industry is divided into classes based on revenues. Trucking and intercity bus carriers with more than \$5 million in earnings are categorized as Class 1, those with between \$5 million and \$1 million as Class 2, and those with less than \$1 million as Class 3. The revenue thresholds were established in 1980 and are adjusted for inflation each year.

Current Data Programs

Annual Reports to Congress. The commission has provided an annual report to Congress for more than 100 years. These extensive reports draw on the regulatory activities and statistical reports received by the commission and provide a useful summary of the status of regulated transportation.

Transport Statistics in the United States. This report, published annually, provides summary statistics for Class 1 rail and motor carriers, including general balance sheet and financial data, operating income and expenses, and operating statistics. Some information on physical equipment, such as track and operating equipment, is also included.

Motor Carrier of Property Quarterly Freight Revenue Report Form. The Quarterly Freight Revenue (QFR) schedule, substantially reduced from its prederegulation length, covers major financial and operating statistics for trucking firms. Reporting is required on a quarterly and cumulative annual basis. Only the carriers identified as Class 1 or 2 are required to provide significant reporting in the trucking sector. Reporting carriers number approximately 2,000 in contrast with more than 42,000 nonreporting carriers. Class 3 and exempt carriers are only required to provide identification information and revenue data sufficient for classification purposes.

The individual carrier reports are available for inspection in a public reference room. Each quarter, the commission's Office of Economics produces a brief release citing the top 100 carriers and reporting selected earnings data. These are published under the titles: *Large Class 1*

Motor Carriers of Property Selected Earnings Data and Large Class 1 Household Carriers Selected Earnings Data. Far more detailed financial and operating statistics from data filed in QFR are provided for a fee by the American Trucking Associations in the Motor Carrier Quarterly Report: Financial and Operating Statistics.

Motor Carrier of Passengers Quarterly and Annual Report. Motor carriers of passengers (i.e., intercity bus carriers) complete a substantially abbreviated version of the QFR financial and operating schedule, called MP-1. Only the Class 1 carriers are obligated to provide the required report in the bus sector. The Class 1 intercity bus carriers number about 30 of more than 3,000 bus carriers. Reporting firms provide a mix of scheduled service, tour and charter operations, school bus, and even local transit services. One firm, Greyhound, generates most of the industry's Class 1 revenues. The ICC Office of Economics provides a parallel quarterly release to the trucking report for the top ten bus carriers, Large Motor Carriers of Passengers Selected Earnings Data.

Quarterly Report of Railroad Revenues, Expenses and Income. Rail reporting follows a format similar to the motor carrier system, but, because of the nature of the industry structure, Class 1 carriers represent almost all of the industry's activity. Class 1 carriers are defined as those with revenues above a certain threshold (\$93.5 million in 1989); the dividing line for Class 2 and 3 carriers is at \$18.6 million. Only those in Class 1 are required to report quarterly and annual financial and operating information. Class 1 carriers numbered only 16 in 1990 but accounted for more than 90 percent of total industry revenue. There are approximately 500 non-Class 1 carriers.

Report of Railroad Employment Class 1 Line-Haul Railroads and Wage Statistics of Class 1 Railroads. Because the rail industry does not participate in the social security system of the United States, ICC is responsible for the collection of monthly and annual data on employment and wages for Class 1 railroads. These data are provided to the Bureau of Labor Statistics for such purposes as compiling employment statistics of the U.S., the unemployment rate, and the calculation of productivity measures.

Rail Waybill Statistics. In addition to financial and operating statistical reporting, ICC, in a jointly funded activity with FRA, contracts with the Association of American Railroads (AAR) to produce the Rail Waybill Statistics, which reports on rail origin-destination movements by commodity, based on a sample of shipping documents and computer files. The report is published by FRA (see p. A-31).

U.S. Department of Agriculture

Agency Mission

The mission of the U.S. Department of Agriculture (USDA) is to improve and maintain farm income and develop and expand markets abroad for agricultural products. The department works to enhance the environment and maintain U.S. production capacity by helping landowners protect soil, water, forests, and other natural resources. Rural development, credit, conservation, and research programs are also part of the department's mission. Finally, the department safeguards and ensures standards of quality in the daily food supply through inspection and grading services.

The Transportation and Marketing Division (TMD) of USDA's Agricultural Marketing Service (AMS) helps develop an efficient agricultural and rural transportation system by providing research, technical assistance, and leadership in developing transportation policy and programs within USDA. In doing so, TMD draws on a variety of data sources in both the public and private sectors. TMD is both a data user and a data gatherer.

Current Data Programs

Ocean Grain Freight Rates. TMD has electronically compiled more than five years of grain freight rates from the weekly publication Maritime Research. Both U.S. and foreign origins and destinations are included, along with shipper, volume, rate, and other information. The information is used to determine the U.S. competitive position in worldwide grain markets and estimate USDA export commodity programming levels.

Trucking. TMD monitors trends in agricultural trucking. However, because unprocessed agricultural commodities moving by truck are generally unregulated, the lack of reporting requirements causes a major shortfall in reliable data. Information on rates, tonnage, the number of carriers, and flow patterns is generally nonexistent. Through records kept by the AMS market news reporters, data are available on fruit and vegetable shipments and receipts at major markets. TMD also calculates per-mile costs for exempt owner-operators of truck fleets.

Waterways. TMD collects information on grain flows through seven strategic locks on the Mississippi River system. Although the information is available from USACE, timeliness and accuracy are sometimes an issue. TMD is interested in grain traffic by type of grain, whereas the USACE data sometimes do not distinguish among the various grain types.

Rail. TMD uses a waybill bill sample from the ICC to determine grain movements by rail. However, certain use restrictions are placed on these data, which limit their utility in analyzing the movement of agricultural goods.

he Transportation Statistics Annual Report is a long overdue summary of the state of the nation's transportation systems and the issues and consequences of maintaining such a diverse and complex network. All four transportation modes airways, highways, railways, and waterways—are examined through available data and statistical studies. In addition, it takes a closer look at the statistics themselves and identifies obstacles to attaining both quantity of and quality in information on transportation in the United States. A better understanding of the performance of the transportation system and the potential for its improvement requires both better coverage and increased quality of existing data. This report highlights attempts toward the design and implementation of better measures to transform existing and new data into useful information.

The Bureau of Transportation Statistics, is an operating administration of the U.S. Department of Transportation. BTS is responsible for compiling, analyzing, and making accessible information on the nation's transportation systems; collecting information on intermodal transportation and other areas as needed; and enhancing the quality and effectiveness of the statistical program of DOT through research, the development of guidelines, and the promotion of improvements in data acquisition and use.

Information on the *Transportation Statistics*Annual Report and other publications is available by writing BTS Product Information, U.S. Department of Transportation, Room 2104, Washington, D.C. 20590, faxing 202-366-3640, or calling 202-366-DATA.

The Transportation Statistics Annual Report is also available on CD-ROM with extensive, additional data files.

